

SUBJECT INDEX

- Acquatraversan erosional phase 55, 61
 Acidification and paleolimnology
 chironomids as indicators 35, 36
 diatoms as indicators: European lakes 153-9; N American lakes 150-3
 principles 147-50
 Aghnadarragh Interstadial 275-7
 Aghnadarragh stratigraphy 273, 274
 Agrio, Lake 105, 106, 108
 Aguarico, River 103, 105, 106
 Ahvenainen, Lake 13
 Altai Mt stratigraphy 309
 Amazon Basin
 geography 95, 96
 paleoecological records
 arid climate 99
 erosion 103-5
 fire 111
 flood 105-7
 precipitation 107-11
 temperature 102, 103
 rainforest refugia concept 96-8, 112
 Amino acid racemization
 Arrhenius equation theory 44-8, 53
 geochronology: bones 25-8; molluscs 49-51, 246
 paleothermometry 49-52
 Anangucocha 105, 107, 108
 Aridity records in tropics 97-9
 Arno Valley stratigraphy 56
 Arnold, Lake 153
 Arran, Isle of 15, 16
 Arrhenius equation and amino acid racemization 44-8, 53
 Athdown event 279
 Auhrim event 279
 Aulla erosional phase 57, 61

 Baffin Bay
 Late Quaternary sedimentation 235-41
 marine currents 231, 232
 Baffin Island Wisconsinan glaciation 232, 233
 Ballybetagh substage 265
 Ballycroneen and Ballycroneen till 261, 272, 279, 280
 Ballylanders type site 261
 Ballymakegoge type site 261, 269
 Banco d'Ibiza stratigraphy 248, 254
 Bannow and Bannow till 270, 279, 280
 Barrine, Lake 84-7
 Barrow (Alaska) tundra studies 166-9
 Belderg shelly till 291, 292
 Big Moose Lake pH profile 152, 153
 Big Woods (Minnesota) charcoal and fires 11, 12
 Bitterroot Mountain (Montana) charcoal and fires 13, 14
 Black Loam Formation 193, 194, 207, 313
 Black Moss of Achnacree (Scotland) charcoal and fires 15
 Blacksberg (Denmark) charcoal and fires 11
 Blanket Nook till 291
 Blassac (France) *Equus* records 60-2
 Boleynendorrish type site 261, 264, 265, 267
 Bone dating 25, 27, 28
 Bonfield Gill (England) charcoal and fires 15
 Bosumtwi, Lake 82, 84
 Bovevagh till 275, 291, 292
 Bowl (Australia) charcoal and fires, The 14
 Brårvatn lake acidification 155, 157-9
 Burnfoot till 291
 Burnmoor Tarn pollen profile 153, 154

¹⁴C dating of loess 198
 Cahore stratigraphy 270

 Cajú, Lake 109, 110
 Cala Pi stratigraphy 248-50
 Camp de Mar stratigraphy 248, 252
 Campo de Tiro stratigraphy and dating 248, 250, 252-4
 Canada, soil development in *see* soils
 Canyamel stratigraphy and dating 249, 250, 252, 253
 Carbon budgets
 future of 175, 176
 in biosphere 165, 166
 in soils
 taiga 169-75
 tundra 166-9
 Carbon-14 dating of loess 198
 Carbonates in loess 207, 208
 Carey Valley stratigraphy 293
 Cartnege stratigraphy and dating 248, 250, 252, 254
Carya distribution in late Quaternary 131-8
 Casa Frata (Italy) *Equus* records 60, 61
 Cassian erosional phase 57, 61
 Castelnuovo dei Sabbioni Group 56, 57
 Castlepook Cave deposits 277, 278
 Cava Bancals stratigraphy 249, 250
 Central Peten Historical Ecology Project (CPHEP) 117-20
 Charcoal in paleoecology
 analytical techniques
 elemental analysis 17, 18
 magnetic measures 18, 19
 microscopy 9-18
 production and distribution 4-8
 sampling methods 8, 9
 Chilhac (France) *Equus* records 59, 61
 China
 glacial stratigraphic history
 eastern area 301-8
 western area 308-11
 loess stratigraphy 191-4
 climatic interpretation 209-16
 Chironomidae
 biology 29, 30
 classification 30, 31
 morphology 31
 preparation for identification 32, 33
 taphonomy 31, 32
 use in paleoecology 33-8
 Climate in Pleistocene
 Chinese loess indicators 204-9
 interpretation 209-16
 periodicity 216, 217
 Clogga event 279
 Collagen racemization 25-7
 Connachtian 270
 Cornillet (France) *Equus* records 59, 61
 Courtmacsherry stratigraphy 263, 265, 268, 269, 272, 280, 281
 Cova de sa Gata stratigraphy 248, 250, 252
 Crostolo (Italy) *Equus* records 60, 61
 Cuenca del Tajo (Spain) *Equus* records 59
 Cueva del Congosto y de la Figuras (Spain) *Equus* records 60
 Cueva Victoria (Spain) *Equus* records 60, 61
 Cullar de Baza (Spain) *Equus* records 60-2
 Cuminã, Lake 110
 Cunro, Lake 107

 Da Gu glaciation 302, 303
 Dabusan Lake stratigraphy 310
 Dali glaciation 305
 Dating techniques *see* amino acid racemization; magnetic reversals; magnetic susceptibility; radiocarbon; thermoluminescence; thorium isotope; U series
 Derryvree Cold Phase 277, 278
 Derryvree Interstadial 265

- Derryvree type site stratigraphy 261, 273, 274
 Diatoms in paleolimnology
 European lake studies 153-9
 N American lake studies 150-3
 principles 147-50
 DIPH technique 147, 149
 Diptera *see* Chironomidae
 Drogheda till 282
 Drumlin phase in Ireland 290, 291
 Dundalk Bay stratigraphy 283-6
- Eastern General glacial system 263
 Ecosystems
 factors affecting stability 115-17
 human impact
 Florida 122-6
 Guatemala 117-20
 Haiti 120-2
 N America 143
 El Junco, Lake 98
 Epimerization of amino acids 44
Equus in Mediterranean stratigraphy 60-3
 E. caballus occurrence 59, 60
 E. stenonis occurrence 59, 60
 Erosion record in Amazon rainforest 103-5
 Everitt Lake charcoal and fires 14
- Facies analysis in Irish Sea drift 281-90
 Fairbanks (Alaska) taiga studies 169-75
 Farneta Faunal zone 57, 61, 62
 Farneta (Italy) *Equus* records 60, 61
 Fenit type site 273
 Fenitian Stage 265
 Feohanagh Pollen Sands 270
 Fermanagh Stadial 265, 273-5
 Ferrimagnetic oxides and fire history 18, 19
 Fire in paleoecology 3, 19, 20, 111
 Flaminian erosional phase 61
 Flooding and Amazon paleoecology 105-7
 Florida lake district paleoecology 122-6
 Forest dynamics in late Quaternary
 temperate
 community relationships 140-3
 dominance changes 131-8
 human impact 143-5
 migration rates 138-40
 tropical 103-5
 Foxe Glaciation 231, 232
Fraxinus distribution in late Quaternary 131-8
 Fuensanta (Spain) *Equus* records 60, 61
- Galerian Stage 61-3
 Galheiro, Lake 110
 Gårdsjön lake acidification 153, 154
 Garryvoe and Garryvoe till 261, 272
 Gastropods in loess 204, 205
 Glacial erosion in Arctic Canada 232
 Glacial melting and marine sediments 236, 237
 Glacials and O-isotope stages 187, 189
 Glenasmole type site 261
 Glenavy Stadial 273, 274, 278
 Gongba conglomerate 308
 Gortian Stage
 deposits 261, 265-9
 typical taxa 264, 265
 Greenagho stratigraphy 274
 Guatemala paleoecology 117-20
- Hacketstown substage 279
 Haiti paleoecology 120-2, 126
 Hantengri Mt stratigraphy 309
Hipparion clays *see* Red Clays
Hipparion rocinantis 59
 Hollybrook stratigraphy 274
 Hollymount Cold Phase 274, 277
 Hollymount stratigraphy 274
- Holmvatn lake acidification 155, 157-9
 Human impact on ecosystems
 eutrophication in lakes 35
 in Florida 122-6
 in Guatemala 117-20
 in Haiti 120-2
 in N America 143
 tropical rainforests 86-8
- Ice volume and O-isotope record 187, 190
 Icebergs and sedimentation 236-8
 INQUA 179
 Interglacials and O-isotope stages 187, 188
 Ireland
 glacial deposits and ice limits 260, 262, 278-81, 291-6
 Interglacial sites 264-9
 Interstadial sites 266, 275-8, 292
 Quaternary stratigraphy
 history and development 259-63
 problems 263, 264
 recommendations 261
 Irish Sea drifts 281-90
 Iron oxides in loess 209
- Kangrinboqe Mt stratigraphy 308
 Karakorum Mts stratigraphy 309
 Karawucheng Mt stratigraphy 309
Kd index in loess 209
 Kilmore Quay stratigraphy 270
 Kunlun Mts stratigraphy 309
- La Juliana (Spain) *Equus* records 57, 58
 La Malouteyre (France) *Equus* records 60-2
 La Puebla de Valverde (Spain) *Equus* records 59, 61, 62
 La Roche Lambert (France) *Equus* records 59, 61
 Labrador Sea
 marine currents 231, 232
 sedimentation in Late Quaternary 235-41
 Lachar (Spain) *Equus* records 60, 61
 Lake District (England) acidification studies 153
 Lake of Clouds 13
 Lakes
 classification methods 33, 34
 drainage basin ecology 116, 117
 Haiti 120-2
 Peten region 117-20
 paleoecological studies
 acidification 35, 36, 147-50
 eutrophication 35
 paleoclimate 36, 37
 salinity 36
 Las Higuieruelas (Spain) *Equus* records 59
 Le Coupet (France) *Equus* records 59, 61
 Le Ville (Italy) *Equus* records 60, 61
 Les Etouaires *Equus* records 57
 Limnology *see* lakes
 Limoncocha 105, 107, 108
 Lishi Loess Formation
 fossil content 198, 204-6
 physical characters 193, 207, 211-13
 stratigraphic correlation 305
 Littletonian Stage 261, 265
 Loess
 climatic interpretations 204-9
 dating techniques 198-204
 definition 191
 stratigraphy in China 191-4
 Loong 302, 303
 Loughred Series 265
 Luochuan loess stratigraphy 191-4, 204
 Luohe River terrace development 196-7
 Lushan piedmont glacial features debated 301-3, 306-8
Lymnaea epimerization 46
- Magnetic reversal stratigraphy in loess 199, 200
 Magnetic susceptibility
 fire history 18, 19

- loess stratigraphy
 climate 208, 209
 dating 200-4
 Maguiresbridge Formation 265, 273
 Malagrotta (Italy) *Equus* records 60, 61
 Malan Loess Formation
 fossil content 198, 204-7
 physical characters 193, 211, 212
 stratigraphic correlation 305, 312, 313
 Mallorca
 amino acid and U series geochronology 249-53
 shoreline stratigraphy 246-9, 253-5
 tectonic stability 255, 256
 Man *see* human
 Matussino (Italy) *Equus* records 59, 61
 Mayan civilization
 development 117, 118
 ecological impact 118-20, 126
 Mell stratigraphy 283
 Mera (Equador) Glacial age pollen 99-102
 Midland General glacial system 263, 273
 Midlandian Stage 261, 273-8
 Miragoane Lake paleoecology 120-2, 126
 Monte Oliveto (Italy) *Equus* records 60, 61
 Montevarchi Group 56, 57
 Montopoli *Equus* records 55, 57, 59, 61
 Mud Pond (Maine) PIRLA study 150-2
 Munsterian Stage 261, 269-73

 Nahanagan Moraines 265
 Nahanagan Stadial 273, 274, 292
 Napo River 103
 Nautica Mts 248, 252
 Neotyrrenian 254
 New Guinea terrace data 184-7
 Newtown stratigraphy 272
 Ngari Mts stratigraphy 309
 Nienixiongla glaciation 312
 Nihewan Formation 308
 Nyainqentanglha Range stratigraphy 308

 Ocean Point (Alaska) tundra studies 167
 Olivola Faunal zone 56, 57, 61
 Olivola (Italy) *Equus* records 59, 61
 Ontogeny in Chironomidae 33-5
 Oxygen isotope record
 factors affecting 183-5
 loess record compared 202, 209-16

 Paguerra, Playa de 248, 250, 252
 Paleocological analyses
 climate 36, 37
 limnology 33-8, 147-50
 temperature 49-52
 Paleocological investigation of Recent Lake Acidification (PIRLA) 147, 149, 150
 Paleosols in China 194-6
 Pardines (France) *Equus* records 59, 61
 Parker, Lake 125, 126
 Peten (Guatemala) paleoecology 117-20
Picea distribution in late Quaternary 131-9
Pinus distribution in late Quaternary 131-8
 PIRLA project 147, 149, 150
 pH in lakes 147-50
 Phosphorus in lakes 119
 Pliocene-Pleistocene boundary position 41, 42
 Poggio Mirteto (Italy) stratigraphy 58, 59
 Pollen spectra
 loess 205-7
 mid Holocene of England and Scotland 154, 155
 tropical rainforest 78, 79
 Ponton de la Oliva (Spain) *Equus* records 60-2
Populus distribution in late Quaternary 131-8
 Poyang glaciation 302, 303
 Pozo de Valverde de Calatrava (Spain) *Equus* records 60, 62
 Precipitation records in Amazon forest 107-11
 Prudhoe Bay (Alaska) tundra studies 167

 Qiaoer Mt stratigraphy 309
 Qilian Mt stratigraphy 309
 Qinghai-Xizang Plateau glacial features 308-11
 Qomolangma glaciation 312
 Qomolangma Mt stratigraphy 308
Quercus distribution in late Quaternary 131-9
 Quexil, Lake 118, 119

 Racemization of amino acids 44
 Radiocarbon dating of loess 198
 Rainforest, tropical
 distribution 77, 78
 Holocene 83-6
 Late Quaternary 79-83
 factors affecting distribution
 aridity 96-9
 erosion 103-5
 flooding 105-7
 human impact 86-8
 temperature 102, 103
 pollen assemblages 78, 79
 refugia concept 93-5
 Ranuccio Anagni (Italy) *Equus* records 60, 61
 Red Clays (Hipparion Clays) 192, 198, 200
 Rincon (Spain) *Equus* records 55, 56, 59, 61
 Roca Neyra (France) *Equus* records 59
 Roddans Port type sites 261
 Round Loch pollen profile 153, 155

 Sacnab, Lake 118, 119
 Saint Vallier Faunal zone 56, 57, 61
 Saint Vallier (France) *Equus* records 59, 61, 62
 Saint Vidal (France) *Equus* records 59, 61
 Sainzelles (France) *Equus* records 60-2
 Salinity studies in lakes 36
 Salpeten, Lake 118, 119
 San Giacomo (Italy) *Equus* records 56, 59, 61, 62
 San Onofre (Spain) stratigraphy 58
 Saturated isothermal remnant magnetism (SIRM) 18, 19
 Screen Hills Complex 281, 282
 Sea level
 Mallorcan coastal stratigraphy 255
 oxygen isotope record 184-7
 Sedimentation rates in Late Quaternary
 methods of estimation 233-5
 results 235-41
 Seneze (France) *Equus* records 60, 61
 Shortalstown warm stage 268
 S'Illot stratigraphy 249, 250, 253
 Slivia (Italy) *Equus* records 60-2
 Soils in Canada
 Arctic 225, 226
 Atlantic Provinces 221-3
 Cordillera 228, 229
 Great Lakes 223-5
 Hudson Bay 223-5
 Interior Plains 227, 228
 Mackenzie Valley 226, 227
 Rocky Mts 227, 228
 Shield areas 223-5
 West Coast 228, 229
 Yukon 226, 227
 Soils in China, loessial 194-6
 Solihac (France) *Equus* records 60, 61
 Son Grauet stratigraphy 248, 250-3
 South Ireland End Moraine (SIEM) 262, 263, 267, 278
 Spircha till 291
 Surara, Lake 110

 Taibai Mt stratigraphy 309
 Taiga soils carbon balance 169-75
 Tanana River Valley taiga studies 169-75
 Tanggula Shankou stratigraphy 308
 Tasso Faunal zone 56, 57, 61
 Tasso (Italy) *Equus* records 60, 61
 Temperature variation
 CO₂ levels 165

- in Ice Age Amazonia 102, 103
Terra Nova, Costa da 107-9, 110
Terrace development and loess stratigraphy 196, 197
Teshekpuk Lake (Alaska) tundra studies 167
Thermoluminescence dating of loess 198, 199
Thorium isotope dating 181
Torre S'Estatelella stratigraphy 249, 250, 254
Torreinpietra (Italy) *Equus* records 60, 61
Tralee Bay stratigraphy 272
Tree migration rates 140
Triversa (Italy) stratigraphy 58
Tullyallen stratigraphy 283
Tundra soils carbon balance 166-9
- U series dating
corals 251, 253
mollusks 253, 256
- Valdeganga (Spain) *Equus* records 59, 61
Valencia, Lake 82, 98
Vallonet (France) *Equus* records 60-2
Varzeas 107-9
Venosa (Italy) *Equus* records 60, 61
Venta Micena (Spain) *Equus* records 60, 61
Vertebrate paleontology in loess
climatic interpretations 205
- dating 198
Viallette (France) stratigraphy 57
Victoria, Lake 84
Villafranchian Stage 55-9, 61-3
Vrica Plio-Pleistocene boundary section 41, 42
- Water, role in charcoal dispersal 5
Weihe River terrace development 196, 197
Wind, role in charcoal dispersal 5
Wisconsinan of Baffin Island 232, 233
Wood Village stratigraphy 270
Woodgrange Interstadial 265, 273, 274, 292
Wucheng Loess Formation
fossil content 198, 205
physical characters 192, 193, 213, 214
stratigraphic correlation 305
- Xian loess stratigraphy 191-4
Xifeng loess stratigraphy 191-4
Xixabangma glaciation 312
Xizang stratigraphy 309
- Yaguarcocha 98, 107
Yambo, Lake 107
Yaxha, Lake 118, 119

